

REMARKS

Reconsideration and allowance of this application, as amended, is respectfully requested.

This amendment is in response to the Office Action dated June 18, 2003. Appreciation is expressed to the Examiner for the allowance of claims 22, 24 and 25 and the indication of allowable subject matter in claims 34 and 35.

By the present amendment, claims 1-19 have been cancelled without prejudice to Applicants' right to proceed with the subject matter of these claims in a divisional application. Claims 20, 26 and 29 have been amended to further clarify the invention, as will be discussed below, and claims 30, 31 and 35 have been cancelled without prejudice. In addition, new dependent claims 36 and 37 have been added to further define the invention. Regarding claim 35, it is noted that this represents renumbered claim 31, as noted in the Office Action (noting that claims 31 had previously already been cancelled). Incidentally, claim 20 has been amended to correct the spelling error noted in the Office Action.

Reconsideration and allowance of amended independent claims 20 and 26 and their dependent claims 21 and 28 over the cited prior art to Fan (USP 5837578) and Schindler (USP 6316802) is respectfully requested. With regard to this, claim 20 is directed to an arrangement such as shown, for example, in Figs. 14 and 15 and discussed in paragraph [0092] in which opening such as 54 and 55 are formed over a second layer wiring and an upper layer electrode 49 (which can be formed by tungsten film 48 and a ruthenium film 47). Claim 20 has been amended to particularly define that the ruthenium film is formed by a CVD method and the further features that:

"wherein said conductor layer and said first layer wiring are comprised of a material having a lower etching rate than said ruthenium film under a condition where the silicon oxide film is etched."

It is respectfully submitted that this feature within the overall combination of the claim is neither taught nor suggested by Fan or Schindler, whether considered alone or in combination with one another.

For example, in Fan, a capacitor is formed with a second conductive layer 391 as a lower electrode, a third conductive film 311 as an upper electrode and a dielectric film 310 formed therein between. However, nothing in Fan teaches or suggests the use of a ruthenium film such as specified in claim 26. In particular, this reference clearly fails to suggest that the conductor layer and the first layer wiring are comprised of material having a lower etching rate than the ruthenium film under the condition whether the silicon oxide film is etched.

It is further submitted that nothing in the Schindler reference suggests modification of Fan to arrive at the present claimed invention. In particular, this Schindler reference also clearly fails to suggest the feature defined by amended claim 20 of the conductor layer and the first layer wiring being comprised of a material with a lower etching rate than the ruthenium under the condition that the silicon oxide film is etched. Accordingly, reconsideration and allowance of amended claim 20 over these references is respectfully requested.

Similarly, amended claim 26 particularly defines the feature that the ruthenium film has a larger internal stress than the metal layer has. This is described in the invention with regard to Fig. 9 and can be found in paragraph 0083 of the disclosure. As noted there, when the film thickness of the tungsten film 48 is greater than the film thickness of the ruthenium film 47, the overall stress and the resistance of the upper electrode 49 can be reduced. Nothing in the cited references to Fan or

Schindler at all suggests this overall combination of features including a ruthenium film having a larger internal stress than the metal layer used in forming the second electrodes. Therefore, reconsideration and allowance of independent claim 26 over this combination of references is also respectfully requested.

With regard to the dependent claims 21 and 28, these claims serve to define additional features in combination with their respective parent claims which are not at all suggested by cited references to Fan and Schindler. Therefore, allowance of claims 21 and 28 together with their respective parent claims is earnestly solicited.

Reconsideration and allowance of claims 29-33 over Fan and Onishi (USP 5854104) is also respectfully requested. Claim 29 has been amended to define an arrangement shown, for example, in Fig. 8 (and discussed, for example, in paragraph [0077] in which a CVD method is used to deposit a ruthenium film such as 47). The claim also defines the arrangement in which a tungsten film such as 48 (see paragraph [0082] is formed by a sputtering method. This serves to provide an overall improved product utilizing the combination of the ruthenium film and the tungsten formed by a sputtering method. Regarding this, neither Fan nor Onishi at all suggests this combination of the ruthenium film and the tungsten formed by a sputtering method. Accordingly, reconsideration and allowance of independent claim 29 and its respective dependent claims is also respectfully requested.


If the Examiner believes that there are any other points which may be clarified or otherwise disposed of either by telephone discussion or by personal interview, the Examiner is invited to contact Applicants' undersigned attorney at the number indicated below.

To the extent necessary, Applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of

this paper, including extension of time fees, to the Deposit Account No. 01-2135 (Docket No. 501.39149X00), and please credit any excess fees to such Deposit Account.

Respectfully submitted,

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